

Abstract:

In order to effectively extract the waste heat from a reciprocating engine, the normal heat exchanger components of an engine are replaced with one or more heat exchangers which have the motive fluid of an organic rankine cycle system flowing therethrough. With the heat transfer in the plurality of heat exchangers, the engine is maintained at a reasonable cool temperature and the extracted heat is supplied to an ORC turbine to generate power. The heat is derived from a plurality of sources within the reciprocating engine, and at least two of those sources have their fluids passing through the same heat exchanger. In one embodiment, the engine coolant and the engine lubricant pass through the heat exchanger in the same direction, and the ORC motive fluid passes therethrough in a counterflow relationship.